Ticket #4258 - ISIS Installer Spike

This document describes what steps need to be performed to ensure that the ISIS installer for the next release correctly targets the new supported systems for the next ISIS public release. It is assumed that isis3mgr@prog24's cronjobs have been updated, and that the /usgs/cpkgs/isis3/bin/config/isis3DevelopmentSys.lis has been updated. Once a public release has been pushed to the rsync distribution servers, we will know the names of the OS specific ISIS build packages.

About the Installer

The ISIS installer is a GUI-based installer that simply acts as an interactive interface to the rsync distribution servers (isisdist.wr.usgs.gov, isisdist.astrogeology.usgs.gov). It provides the opportunity to select destination directories, select a target system build, and select data.

The installer executable can be obtained with the following command:

```
rsync -azv isisdist.wr.usgs.gov::installer .
```

The installer can be run with the following command:

```
java -jar install.jar
```

The following command can be useful for tracking variable states and general debugging:

```
java -jar -DTRACE=true install.jar
```

Alternatively, you can download a wrapper script at
https://isis.astrogeology.usgs.gov/documents/InstallGuide/assets/isisInstall.sh
Then,

```
chmod +x isisInstall.sh && ./isisInstall.sh
```

The installer components and files are stored in $svnprog/isis3mgr/installer (which corresponds to ~isis3mgr/installer). The "izpack" directory contains files specific for compiling the installer itself, classes for the installer functionality and look, and custom Java classes that we have created to define custom functionality. These files will not need to be updated for targeting new OS's.
The "isis3" directory contains the components needed to populate the installer with the correct information and is used to actually build the installer executable. Two files will need to be modified for targeting new OS's: installer.core.xml and userInputSpec.xml.

When ISISROOT is set and “make output” or “make” is run in the [isis3mgr]/installer/isis3 directory, it uses the buildInstallSpec script to create the necessary install packs (Isis, data, DEMs) that can be installed.

For more details about the installer itself, see ~isis3mgr/installer/README.

Targeted OS’s:

There are five systems that the next ISIS public release will be built for:

- prog17 - Mac OSX 10.11
- prog21 - Fedora 21
- prog22 - Ubuntu 14.04
- prog23 - Debian 8
- prog24 - CentOS 7

All of these systems are 64-bit architectures.

Files to Update

[isis3mgr_checkout]/installer/isis3/resources/userInputSpec.xml
[isis3mgr_checkout]/installer/isis3/install.core.xml

Procedure

The following steps describe what needs to be done in order to update the installer for a new public release of ISIS that targets new OS’s.

***/work/projects/isis/latest/m04258** will have suggested changes to the isis3mgr files that need to be modified. You man run an svn diff to see what needs to change. Note that the target OS package names (e.g. x86-64_linux_FEDORA21) must match the package names on the distribution servers. This can be checked with rsync isisdist.wr.usgs.gov::*

Modifying userInputSpec.xml

The **userInputSpec.xml** file is a specification for how user input is captured and stored when the user interacts with the installer. We are interested in the profile panel (panel order 1). This panel is presented to the user as a list of radio buttons the user can select. Each radio button corresponds to a target OS build of the latest ISIS public release on the distribution servers. When a button is selected, that choice’s value is stored in the PROFILE variable, which is used in the install.core.xml file (essentially to automatically detect the client’s OS and pick an appropriate target OS to download).

(As you)

```
cd /scratch/isis3mgr/installer/isis3/resources
```

In the editor of your choice, modify the userInputSpec.xml file as follows:

- Remove any choices corresponding to old systems
    - Remove MacOSX 10.6
    - Remove Feodra 16
    - Remove SLES 11
    - Remove RHEL 6
    - Remove Ubuntu 12.04
    - Remove Debian 6.0 and Debian 7.0

- Add choices for the new systems, where the txt is set to a descriptive string representing the OS, and the value is set to the name of the target OS build package on the rsync distribution servers:

```
<choice txt="MacOSX 10.11 64-bit" id="radio.label.1" value="x86-64_darwin_OSX10.11" />
<choice txt="Fedora 21 Linux x86 64-bit" id="radio.label.2" value="x86-64_linux_FEDORA21" />
<choice txt="Ubuntu 14.04 Linux x86 64-bit" id="radio.label.3" value="x86-64_linux_UBUNTU14"
/>
<choice txt="Debian 8.0 Linux x86 64-bit" id="radio.label.4" value="x86-64_linux_DEBIAN8" />
<choice txt="CentOS 7 Linux x86 64-bit" id="radio.label.5" value="x86-64_linux_CENTOS7" />
```

Modifying install.core.xml

The **install.core.xml** file is used to specify how the installer is presented to the user and specifies any logic that needs to occur based on user input. We need to remove any conditions that are related to old systems and create new conditions for the new OS’s. These conditions are used to automatically detect and select a target OS build of ISIS based on the user’s client machine. We also need to remove any PROFILE dynamic variable assignments that are related to old systems and create new assignments with the new conditions and new target OS package names.

(As you)

```
cd /scratch/isis3mgr/installer/isis3
```

In the editor of your choice, you will need to modify the install.core.xml file as follows:

- Remove any conditions related to the old systems
    - Remove “isSuse” condition
    - Remove “isRhel” condition
    - Remove “is64bit” condition

- Add conditions for the new systems

    - Add “isCentos” condition that checks if /etc/centos-release file exists
    - *Ubuntu and Debian both share have an /etc/debian_version file, so there is no unique condition currently for Ubuntu.*

- Update the “PROFILE” variable assignments in the dyanicvarialbes tag so that the values are set to the updated target OS build package name and so the conditions are updated to reflect any new systems. Note that the following are *tentative* package names, these may differ slightly from the names produced by the distributeIsis script.
    - Update OSX value to “x86-64_darwin_OSX10.11”
    - Update FEDORA value to “x86-64_linux_FEDORA21”
    - Remove SUS11 assignment
    - Remove both RHEL and RHEL6 assignments
    - Update DEBIAN value to “x86-64_linux_DEBIAN8”
    - Add a new assignment for “x86-64_linux_CENTOS7” that uses the isCentos condition

Updating isis3mgr’s installer area

Commit your changes to the isis3mgr repo.
(As you)

```
cd /scratch/[isis3mgr]
svn commit -m “Updated installer for new supported systems. FIxes #nnnn.”
```

(As isis3mgr@prog6)

```
cd ~/installer
svn up
```

Building and Distributing the Installer

After changes have been committed and updated, the installer will need to be rebuilt and distributed on the distribution servers. (isis3.X.X is the latest public release that has been distributed)

(As isis3mgr@prog6)

```
/home/isis3mgr/isis3bin/distributeInstaller -ns isis3.X.X
```

If you are satisfied with the dry-run, run the script with the -s option to indicate that symlinks will be updated for the installer on the distribution servers.

```
/home/isis3mgr/isis3bin/distributeInstaller -s isis3.X.X
```